

Quick Look at Inactivated Influenza Vaccines (trivalent and quadrivalent): IIV3, High-Dose IIV3 (HD-IIV3), Adjuvanted IIV3 (aIIV3), IIV4

Annual influenza vaccination is recommended for all persons 6 months of age and older, including all healthy persons!

Indications for Use and Schedule

- Age range for use varies by brand:
 - IIV3 (IM): For persons aged 5 years and older
 - HD-IIV3 and aIIV3 (IM): For persons aged 65 years and older
 - IIV4 (IM): For persons aged 6 months and older

Key Points

- **No** preference for any flu vaccine product for any age group
 - Ensure vaccination occurs with an **age-appropriate dose**
 - Some children aged 6 months through 8 years may need 2 doses of 2018-19 seasonal flu vaccine to best protect them
 - Persons aged 9 years and older only need 1 dose of flu vaccine, regardless of previous flu vaccination history

Administration¹

- IIV3, HD-IIV3, aIIV3, and IIV4—administer IM
 - Children: 1-inch needle
 - Adolescents/adults: 1-1.5-inch needle
- All IIV doses can be given with all other vaccines—do not miss an opportunity

Storage and Handling: All IIV

- Store in the refrigerator unit at 36°F - 46°F (2°C - 8°C)
- Stand-alone purpose built storage units preferred
- Do **not** freeze; keep in original box with lid on/protect from light
- Store different IIV formulations apart and label with age indications
- Do **not** use expired vaccine
- Multi-dose vials (MDV)—Afluria® Trivalent, Afluria® Quadrivalent, and FluLaval® Quadrivalent: once entered the MDV must be discarded after 28 days; Fluzone® Quadrivalent: a maximum of 10 doses can be withdrawn from the MDV, even if drawing out 0.25 mL doses

Influenza dosage is based on age and flu vaccine product:

- Dosage for persons aged 3 years and older is **0.5 mL regardless** of flu vaccine product
- For children aged **6-35 months**, there are 3 licensed flu vaccine products:
 - **Fluzone®** dosage is **0.25 mL**
 - **FluLaval®** and **Fluarix®** dosage is **0.5 mL**
- Refer to “2018-19 Seasonal Influenza Vaccine Dosage for Children” at www.michigan.gov/flu

Information on which children aged 6 months through 8 years need 2 doses of flu vaccine:

- Children aged 6 months through 8 years who received at least 2 doses of any trivalent or quadrivalent seasonal flu vaccine (e.g., IIV3, IIV4, LAIV3, LAIV4, ccIIV3, ccIIV4) before July 1, 2018, only need 1 dose of 2018-19 flu vaccine
- If a child has not received at least 2 trivalent or quadrivalent flu vaccine doses before July 1, 2018, administer 2 doses of 2018-19 flu vaccine separated by 4 weeks
- Refer to “Who Needs 2 Doses of 2018-19 Seasonal Influenza Vaccine?” at www.michigan.gov/flu

Contraindications (persons who should not receive IIV):

- Serious allergic reaction (e.g., anaphylaxis) to a previous dose of flu vaccine or one of its components

Precautions (in certain circumstances, persons may receive IIV):

- Moderate or severe acute illness with or without fever
- History of Guillain-Barré Syndrome (GBS) within 6 weeks of previous flu vaccination
- **Note:** For persons who report an egg allergy, administer any flu vaccine appropriate for the recipient's age and health status. If the person reports a reaction to eggs other than hives, administer flu vaccine in a medical setting in which a healthcare provider with experience in recognition and management of severe allergic conditions is immediately available.
- Refer to "2018-19 Influenza Vaccine Screening for Persons who Report Egg Allergy" at www.michigan.gov/flu

Further points to consider:

- Begin vaccinating as soon as flu vaccine is available and **continue throughout the flu season** (until vaccine expires)
- Febrile seizures occur in up to 5% of all young children. A CDC study showed a small increased risk for febrile seizures during the 24 hours following simultaneous administration of IIV and PCV13 and/or DTaP. ACIP considered febrile seizure risk after any combination of IIV, PCV13, and DTaP to be small and recommends giving these vaccines simultaneously if needed. For more information, refer to www.cdc.gov/vaccinesafety/concerns/febrile-seizures.html
- IIV can be given with all other vaccines and with antiviral medications; for more information, refer to www.cdc.gov/flu
 - Note: Data are limited regarding co-administration of novel adjuvanted vaccines (e.g., Fludax[®], Shingrix) with other adjuvanted or unadjuvanted vaccines. No evidence of decreased immunogenicity or safety concerns have been noted when Shingrix is co-administered with unadjuvanted IIV4.
 - Simultaneous or sequential administration of two novel adjuvant-containing vaccines has not yet been evaluated. Given unknown but theoretical concerns of increased reactogenicity when administering two novel adjuvant-containing vaccines and availability of nonadjuvanted flu vaccine options, selection of a nonadjuvanted flu vaccine **may be considered** in situations where a novel adjuvant-containing vaccine is to be co-administered. However, do not delay vaccination if a specific product is not available. Vaccines with newer adjuvants, like other vaccines, should be given at separate sites when co-administered.
- Use current IIV Vaccine Information Statement (VIS) with details about the Michigan Care Improvement Registry (MCIR); Michigan VIS are posted at www.michigan.gov/immunize
- Document type of flu vaccine given on vaccine administration record and record card as "IIV3," "HD-IIV3," "aIIV3," or "IIV4"
- For more information on Recombinant Influenza Vaccine, quadrivalent (RIV4, Flublok[®] Quadrivalent), or cell-cultured IIV, quadrivalent (ccIIV4, Flucelvax[®] Quadrivalent), refer to package inserts

¹ Assessment of needle size and injection site must be made for each person based on size of the muscle, thickness of adipose tissue at the injection site, volume of the material to be administered, and injection technique. For more information, see Advisory Committee on Immunization Practices (ACIP) General Best Practice Guidelines for Immunization at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html. For further guidance on influenza vaccine recommendations, refer to "Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the ACIP—U.S., 2018-19 Influenza Season," MMWR Recomm Rep 2018;67(No. RR-3):1-20, located at www.cdc.gov/mmwr.

Publicly purchased flu vaccine can be administered to eligible children aged 6 months through 18 years through the Vaccines for Children (VFC) program in private providers' offices. Eligible children include those who are uninsured, underinsured, Medicaid eligible, American Indians and Alaskan Natives. For more information regarding flu vaccination, contact your local health department, visit Michigan Department of Health and Human Services at www.michigan.gov/flu, or visit www.cdc.gov/flu or www.cdc.gov/mmwr.